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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Ballantine et al.

Examiner: Tsai, H Joy

Serial No.: 10/753,241

Art Unit: 2812

Filed: 1/8/2004

For: INCREASING AN ELECTRICAL RESISTANCE OF A RESISTOR BY OXIDATION
OR NITRIDIZATION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

SPECIES RESTRICTION AND PRELIMINARY AMENDMENT

This communication responds to the Restriction mailed June 8, 2005 and includes a preliminary amendment.

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RESPONSE TO RESTRICTION WITH SPECIES ELECTION

In response to the species restriction requirement, Applicants hereby provisionally elect the first species of using oxygen particles, with traverse. It is respectfully submitted that the search and examination of the species of the entire application could be made without serious burden. Thus, Applicants respectfully submit that the search and the examination of the entire application could be made without serious burden. See MPEP § 803, in which it is stated that "if the search and examination of the entire application can be made without serious burden, the Examiner must examine it on the merits" (emphasis added). Applicants respectfully submit that this policy should apply in the present application in order to avoid unnecessary delay and expense to Applicants and duplicative examination by the Patent Office.

In consideration of the claim amendments herein and as shown *infra* in Table 1, claims 1, 4, 63-66, 5, 10-12, 60-62, 51-59, 16, 20, 23-24, 49-50, 47, and 67-69 read on the elected species. Claims 47 and 67-69 are generic with respect to the elected species.

Table 1

Claim	Species	Dependence
1, 4, 63-66	oxygen	IND (1)
5	oxygen, beam (radiation/particles)	IND
10-12	oxygen, beam (laser radiation)	DEP on 5
60-62	oxygen, beam (laser radiation)	DEP on 10
51	oxygen, beam (particles)	DEP on 5
52	oxygen, beam (electrons)	DEP on 51
53	oxygen, beam (protons)	DEP on 51
54	oxygen, beam (ions)	DEP on 51
55-59	oxygen, beam (radiation/particles)	DEP on 5
16	oxygen	IND
20	oxygen	IND
23-24, 49-50	oxygen	IND (23)
47	generic (oxygen or nitrogen)	IND
67	generic (oxygen or nitrogen), beam (radiation/particles)	IND
68	generic (oxygen or nitrogen), beam (laser radiation)	DEP on 67
69	generic (oxygen or nitrogen), beam (particles)	DEP on 67
70	nitrogen, beam (radiation/particles)	DEP on 67
71	nitrogen	DEP on 47

Applicants respectfully contend that the species restriction requirement is improper, because the five species recited by the Examiner are not mutually exclusive. See MPEP § 806.04(f) which asserts: "Claims to be restricted to different species must be mutually exclusive".

Applicants acknowledge that the first species (oxygen particles) and second species (nitrogen particles) are mutually exclusive with respect to each other. However, the third species (laser radiation beam), fourth species (proton beam), and fifth species (electron beam) are not mutually exclusive with respect to the first species (oxygen) and are not mutually exclusive with respect to the second species (nitrogen), as may be seen in Table 1. In fact, Table 1 shows the third, fourth, and fifth species appearing in a same claim as the first species in claims 5, 10-12, 60-62, 51-59, 47, and 67-69. Table 1 also shows the third, fourth, and fifth species each appearing in a same claim as the second species in claims 47 and 67-71.

The reason why the various species are not mutually exclusive is as follows, based on technology considerations. The first species (oxygen) or second species (nitrogen) react chemically with the portion of the surface layer to oxidize or nitridize, respectively, the portion of the surface layer. In contrast, the third species (laser radiation beam), fourth species (proton particle beam), and fifth species (electron beam) heat the portion of the surface layer. Hence, the third, fourth, and fifth species can coexist with either the first or second species and are therefore not mutually exclusive with respect to the first or second species.

Accordingly, Applicants respectfully contend that the species restriction requirement is improper and should be withdrawn.